

Claims

1. A method for producing isolated galactose oxidase comprising transforming a yeast with a vector comprising a nucleic acid sequence encoding a fusion protein of a signal peptide and galactose oxidase, and an inducible promoter that regulates transcription of the sequence encoding said fusion protein, culturing said transformed yeast, inducing said promoter to cause yeast to produce said fusion protein, removing within the yeast said signal peptide from the galactose oxidase, and secreting the galactose oxidase from the yeast.

2. The method of claim 1 which further comprises activating the secreted galactose oxidase by treatment with an oxidant.

3. The method of claim 1 wherein the yeast is *Pichia spp.*

4. The method of claim 1 wherein the signal peptide is an *Aspergillus niger gla* signal peptide.

5. The method of claim 1 wherein the inducible promoter is a methanol-inducible promoter.

6. A vector for transforming yeast comprising a nucleotide sequence encoding a fusion protein of a signal peptide and galactose oxidase, and an inducible promoter that regulates transcription of the sequence encoding said fusion protein.

7. The vector of claim 6 wherein the yeast is *Pichia spp.*

8. The vector of claim 6 wherein the signal peptide is an *Aspergillus niger gla* signal peptide.

9. The vector of claim 6 wherein the inducible promoter is a methanol-inducible promoter.

10. A nucleotide sequence encoding a fusion protein of a signal peptide and galactose oxidase, and an inducible promoter that regulates transcription of the sequence encoding said fusion protein.

11. The nucleotide sequence of claim 10 wherein the signal peptide is an *Aspergillus niger gla* signal peptide.

12. The vector of claim 10 wherein the inducible promoter is a methanol-inducible promoter.

13. A fusion protein comprising a signal peptide and galactose oxidase, wherein the signal peptide is an *Aspergillus niger gla* signal peptide.

14. A method for activating galactose oxidase comprising treating the galactose oxidase with an oxidant.

15. The method of claim 14 wherein the oxidant is selected from the group consisting of ferricyanide, molybdocyanide and iridium(IV) chloride.